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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,736	01/30/2002	Atsuhito Noda	A1-180 US	6998

23683 7590 07/26/2002

MOLEX INCORPORATED
2222 WELLINGTON COURT
LISLE, IL 60532

EXAMINER

LEON, EDWIN A

ART UNIT	PAPER NUMBER
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2833

DATE MAILED: 07/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/060,736	Applicant(s) <i>W</i> NODA ET AL.	
	Examiner Edwin A. León	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 11-15, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 6-8, 10 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/30/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input checked="" type="checkbox"/> Other: <i>Attachment 1</i> . |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," "Disclosed is", etc.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-4, 9 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 3 and 14 recite the limitation "said retention arms" in Line 2. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1-2, 5, 11-13, 15 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Rathburn (U.S. Patent No. 6,409,521). With regard to Claim 1, Rathburn discloses a receptacle connector for effecting an electrical connection between an integrated circuit package (768) having a plurality of contacts (bottom of 768) disposed thereon, and a printed circuit board (780) having a plurality of contact pads (784) formed thereon, the receptacle connector (751) comprising: insulative connector housing (762,764) for interposing between the integrated circuit package (768) and the printed circuit board (780) in use, the connector housing (762,764) including a plurality of cavities (formed by walls 770) formed therein, each of the cavities (formed by walls 770) opening to opposite surfaces of the connector housing (762,764) ; and, a plurality of conductive terminals (752) embedded in the connector housing (762,764), each of the terminals (752) being disposed in a single one of the cavities (formed by walls 770), the

terminals (752) including body portions (758,760,755,754,756,757,760) extending across connector housing cavities (formed by walls 770), the terminal body portions (758,760,755,754,756,757,760) having a plurality of edges (lateral outermost points of 752), the terminals (752) including pairs of terminal retention members (See Attachment 1) disposed along two opposing edges of the body portions (758,760,755,754,756,757,760), the terminal retention members (See Attachment 1) extending into the connector housing (762,764) to thereby hold the terminals (752) in place, at least one of the terminal retention member (See Attachment 1) including a retention stub (curved inside corners of 755,757) formed by bending the terminal (752) upon itself, the terminals (752) further including contact arms (758,760) that extend away from the terminal body portions (758,760,755,754,756,757,760) and project exterior of the connector housing (762,764) for contacting the contacts (bottom of 768) or contact pads (784). See Fig. 38 and Attachment 1.

With regard to Claims 2 and 13, Rathburn discloses each of the terminals including a retention stub (curved inside corners of 755,757) as one of its retention members (See Attachment 1) and further includes a retention arm (755,757) as the other of its the two retention members (See Attachment 1), the retention stub (curved inside corners of 755,757) and arm (755,757) extending away from the terminal body portion (758,760,755,754,756,757,760) in different directions. See Fig. 38 and Attachment 1.

With regard to Claims 5 and 15, Rathburn discloses a portion (curved corners of 755,757) of each the terminal (752) being folded upon itself to define a U-shaped bend

in the terminal (752), the U-bend defining the terminal retention stub (curved inside corners of 755,757) of the terminal (752). See Fig. 38 and Attachment 1.

With regard to Claim 11, Rathburn discloses each of the contact arms (758,760) extending obliquely away from the body portion (758,760,755,754,756,757,760), beginning at the retention stub (curved inside corners of 755,757) and terminating in a free end (tips of 758,760) that is spaced apart from a central portion (754,756) of the body portion (758,760,755,754,756,757,760). See Fig. 38 and Attachment 1.

With regard to Claim 12, Rathburn discloses a connector (751) for connecting together an integrated circuit package (768) having a plurality of contacts (bottom of 768) disposed thereon, and a printed circuit board (780) having a plurality of contact pads (784) formed thereon, the connector (751) comprising: an insulative housing (762,764) having a plurality of sidewalls (side of 762) that cooperatively define a receptacle (where 768 is mounted) of the connector (751) for receiving the integrated circuit package (768), the connector housing (762,764) including a plurality of terminal-receiving cavities (formed by walls 770) formed therein and arranged within the receptacle (where 768 is mounted), each of the terminal receiving cavities (formed by walls 770) opening to opposite surfaces of the housing (762,764) ; and, a plurality of conductive terminals (752) disposed in the terminal receiving cavities (formed by walls 770), a single one of the terminals (752) being disposed in a single cavity, each of the terminals (752) including: a terminal body portion (758,760,755,754,756,757,760) extending horizontally within its associated terminal receiving cavity, the terminal body portion (758,760,755,754,756,757,760) having a plurality of edges (lateral outermost

Art Unit: 2833

points of 752), two terminal retention members (See Attachment 1) disposed along two opposing edges of the body portion (758,760,755,754,756,757,760) and a contact arm (758,760) that extend away from the terminal body portion (758,760,755,754,756,757,760) and projecting exterior of the connector housing (762,764), the two terminal retention members (See Attachment 1) being embedded in the housing (762,764) to thereby hold the terminal in place within the housing (762,764) and in the terminal-receiving cavity (formed by walls 770), at least one of the terminal retention members (See Attachment 1) including a retention stub (curved inside corners of 755,757) formed by bending the terminal (752) upon itself at one of the two opposing edges of terminal body portion (758,760,755,754,756,757,760). See Fig. 38 and Attachment 1.

With regard to Claim 17, Rathburn discloses the retention members (See Attachment 1) include two retention stubs (curved inside corners of 755,757) that extend away from the terminal body portion (758,760,755,754,756,757,760) in different directions. See Fig. 38 and Attachment 1.

With regard to Claim 18, Rathburn discloses the terminal body portion (758,760,755,754,756,757,760) extending in a horizontal plane and each of the retention stubs (curved inside corners of 755,757) extend away from the terminal body portion (758,760,755,754,756,757,760) in horizontal planes. See Fig. 38 and Attachment 1.

Allowable Subject Matter

6. Claims 6-8, 10, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 3-4, 9 and 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The references fail to teach, disclose, or suggest, either alone or in combination, each of the terminals including a spherical contact applied to the terminal and disposed on a side thereof opposite the contact arm, the terminal body portion extends in a horizontal plane within the terminal-receiving cavity and the retention arm extends in a vertical plane away from the terminal body portion and the retention stub extends away from the terminal body portion in a horizontal plane, each of the terminals includes a spherical contact applied to the terminal and disposed on a side thereof opposite the contact arm.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rathburn (U.S. Patent No. 5,938,451), Sinclair (U.S. Patent No.

Art Unit: 2833

5,427,535), Kozel et al. (U.S. Patent No. 6,106,305), Rathburn (U.S. Patent No. 6,178,629), Cherian et al. (U.S. Patent No. 4,199,209), and Cherian et al. 4,341,433) disclose receptacle connectors having connector housing with cavities and terminal being embedded inside and disposed in the cavities.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. León whose telephone number is (703) 308-6253. The examiner can normally be reached on Monday - Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


THO D. TA
PRIMARY EXAMINER

Edwin A. Leon
AU 2833

EAL
July 20, 2002